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National Weather Service, Salt Lake City, Utah Western Region

Feb 78

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NOAA Technical Memorandum NWS WR-126

CLIMATE OF SAN FRANCISCO

E. Jan Null

National Weather Service Forecast Office San Francisco, California February 1978



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CLIMATE OF SAN FRANCISCO

E. Jan Null Weather Service Forecast Office San Francisco, California

I. INTRODUCTION

The purpose of this paper is to provide an overview, both subjectively and numerically, of the climate of San Francisco. It is a compilation of data archived at San Francisco WSO(AV), spanning a 125-year period and is primarily an attempt to bring together under one cover as much of this data as possible. In a city such as San Francisco with a multitude of widely diversified microclimates, any summary such as this must be taken in the context of a random sample.

I wish to express my gratitude to those persons, past and present, at San Francisco WSO(AV) whose previous efforts at organizing these records made my work infinitely easier. Additionally, I thank Tom Loffman (KRON-TV, San Francisco) whose expertise in early San Francisco climate filled in many data gaps of the first 25 years of record.

II. GEOGRAPHICAL AND CLIMATOLOGICAL SUMMARY

San Francisco spreads out over about forty-five square miles of urbanized peninsula with the Pacific Ocean to the west, San Francisco Bay to the east, and the narrow straits of the Golden Gate in the north. The city is built over and around a series of hills, ranging to 936 feet, formed by the San Andreas Fault as part of the Coast Range.

The primary influence upon San Francisco's weather, being in the midlatitude westerlies, is the proximity of a large body of water to the west (the Pacific Ocean). The resulting climate is characterized as Mediterranean (Etesian), which is represented by only a handful of other locales; notably parts of southern Europe and North Africa, central Chile and the western coasts of Australia and South Africa. This is a climate which is mild and temperate with dry summers and wet winters (classified by Keppen as Cs, "temperate rainy, with dry summer" and by Thornwaite as "subhumid and mesothermal with a summer water deficiency").

Also a contributing factor is the topography of San Francisco, with hills dividing the city into numerous microclimates; the most pronounced differences being the often foggy coastal section compared to the sunnier sections east of the hills. Except for site #10 (Figure 1), all of the observations are from sites in the downtown area in the northeast quadrant of the city. Additionally, the gaps in the hills, especially the Golden Gate (the only passage to the interior at sea level), allow winds and fog to penetrate inland. San Francisco's temperate nature belies the fact that there are seasons, as the changes are somewhat subtle, blending from one to the other gradually.

Each season's weather is governed by the location of an area of high pressure (the Pacific High) centered over the eastern Pacific. As the sun moves north and south from season to season, so does the location of the Pacific High, greatly influencing the weather in the city by the Bay.

Spring finds the High establishing itself off the northern California coast, a position it will occupy through the summer, except to possibly weaken enough to allow an errant April storm to slip into the city. This position intensifies the westerlies, while inland heating, with resulting lower pressures, sets up a pattern of afternoon and evening sea breezes. Along with these winds, coastal stratus and fog (formed by moist air advecting over the cold water of the California Current along the coast) spreads inland during the nighttime hours. Most summer days find the mornings overcast, with the sun gradually evaporating the stratus over the city by noontime. Dense stratus often lingers just to the west, over the cold Pacific waters, ready to move inland come evening.

The above mechanism acts to air-condition San Francisco and keep the average maximum-minimum in a range between fifty and sixty degrees. If the High builds too far north and east, with a resulting offshore flow, then skies are clear and temperatures soar into the eighties or nineties for a couple of days, until the stratus returns.

Early Autumn finds the Pacific High starting to move south for the winter, cutting off the sea breezes and making September and October the year's warmest months. Even at that, on the average, only two days a year exceed ninety degrees. Early October also finds the first Pacific storms of the season slipping into central California, with San Francisco measuring precipitation on about four days.

November brings more and more cloudy days as the storm track from the Gulf of Alaska drops southward with the early winter sun. Most of the fronts that reach the Bay Area are occluded and lack the vigor of those reaching the north coast. Each month through March averages about ten or eleven days of measurable rain which accounts for 85% of the yearly total. Following frontal passages, the southeasterly winds shift to the northwest and become blustery in the clear, cold Arctic air.

Freezing temperatures have been recorded on just eight occasions (all in December and January) in San Francisco; measurable snowfall is almost as rare, occurring only nine times (the last being in January 1952). These events are rare due largely to the urbanized nature of the city, as surrounding areas experience such occurrences almost annually.

March and April bring sunnier skies and gradually warming temperatures as the Pacific High slowly moves north again to its summertime position. Thus the pattern begins to repeat itself as the fog starts to reform on the coast and the westerly sea breezes return.

III. HISTORICAL SUMMARY OF WEATHER OBSERVATIONS

The first weather observations in San Francisco were taken at the Presidio of San Francisco in 1847, but the consecutive record* did not begin until two years later. Thomas Tennet arrived in San Francisco during the Gold Rush of 1849 and began rainfall records August 14, 1849, and temperature data on September 1, 1849.

In 1871 the U. S. Army Signal Service took over the observations on an official basis and it is from that time forward that the more detailed records (such as maximum hourly rainfall) are available. Currently, observations are taken by remote sensors on the roof of the Federal Office Building for rainfall and temperatures and relayed to the Weather Service Office at San Francisco International Airport.

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- *A lapse in records from April 18, 1906, to May 1, 1906, occurred due to the earthquake and fire that destroyed much of San Francisco.

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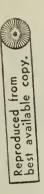
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Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows:
Lowest temperature 27 in December 1932; maximum monthly precipitation 24.36 in January 1862; maximum precipitation in 24 hours 4.67 in January 1881;
Lowest temperature 27 in December 1932; maximum snowfall in 24 hours 3.7 in February 1887; fastest mile of wind 51 from Northeast in December 1923 and earlier.

(a) Length of record, years, through the Lourent year unless otherwise noted, based on January date.

(b) 70° and above at Alaskan stations.

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NORMALS - Based on record for the 1941-1970 period.

DATE OF ME KYREWE - The most recent in cases of multiple occurrence.

PREVAILING WHO DIRECTION - Record through 1928.

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Through 1964. The station did not operate 24 hours daily. Thunderstorm data therefore may be incomplete.

Through 1964. \$ Through 1972.

Through 1973.

CLIMATOGRAPHY OF THE UNITED STATES NO 114

DAILY NORMALS OF TEMPERATURE AND HEATING AND COOLING DEGREE DAYS 1941-70

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CLIMATOGRAPHY OF THE UNITED STATES NO 84

DAILY NORMALS OF TEMPERATURE AND HEATING AND COOLING DEGREE DAYS 1941-70

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ANNUAL	65.6	65.5	65.0 1959*	58.9	58.8	58.8	48.5	48.7	48.8	54.3	54.6	54.9 1880
DEC	63.8	61.3	61.0	57.5	55.8	55.4	41.9	42.6	42.8	47.0	47.2	47.4
NOV	68.8	68.2 1932	68.1 1933*	61.1	60.9	60.8	47.2	47.7	47.8	53.1	53.2	53.4
OCT	73.0	72.5	72.5	65.5	65.2	65.0	50.8	51.0	51.1	56.6	56.9	57.6 1893
SEP	75.0	74.1	73.1	66.8	66.2	65.0	50.7	51.3	52.2	57.6	58.2	58.3 1962*
AUG	59.3 1891	68.5	68.4	62.3	62.1	62.5	50.6	50.9 1893	50.9	56.4	56.4	56.5
JUL	70.0	68.6	68.2	62.3	61.6	61.5	49.3	50.0	50.3	55.6	55.9	<b>56.0</b> 1962
JUN	71.0	69.7	69.3	63.0	62.5	62.4	48.6	49.2	49.3	55.0	55.4	55.9
MAY	69.5	68.5	68.4	61.8	61.5 1936	61.2	46.9	48.0	48.1	52.6	52.6	53.4
APR	68.4	67.3	66.5	59.2	59.0 1931	59.0 1934	45.6	46.2	46.3	50.8	51.6	51.8
MAR	66.2 1934	68.0 1926	66.5	60.6	60.6	59.0	43.9	44.3	44.8	38.9	49.2	49.3
FEB	04.0	63.9	63.4 1970*	58.4 1963	57.4	57.0	42.6	43.3	43.5	47.8	48.3	48.4
JAN	ó1.0 1948	66.3	59.3 1953	54.8	54.7	54.4 1953	38.6	38.8	40.8	43.6	44.7	46.2
	Η.	2.		<u>;</u>	2.		<del>-</del>	2.	ش	<u> </u>	2.	•
CATEGORY	WARMEST	AVERAGE. MAXIMUM	TEMP 1875-Date	WARMEST	MONTH- AVERAGE TEMP	1875-Date		MONTH- AVERAGE MINIMUM	TEMP 1875-Date	COLDEST	MONTH- AVERAGE TEMP	1875-Date

*Last of several occurrences.

.-10-

ANNUAL	101. Sep 71	27 Dec 32	35 Dec 32	75 Sep 04
DEG	86 1958	27	35 1932	63 1937
NOV	84 1955	38 1919	48 1896	66
OCT	96	43	52 1899	1961
SEP -	101	1900	54	75
AUG	92.	46	54	70
JUL	99	47	55 1970*	66 1905
JUN	101	46	53	70
MAY	97	42	51 1950*	69 1943
APR	89 1926	40	48	68
MAR	86 1914	33 1896	45 1896	1914
FEB	80 1899	33	42 1889	60
JAN FEB	79	29 1888	39 1888	60
CATEGORY	ABSOLUTE MAXIMUM 1871-Date	ABSOLUTE MINIMUM 1871-Date	LOWEST HAXIMUM 1875-Date	HIGHEST MINIMUM 1875-Date

*Last of several occurrences.

TEN HOTTEST DAYS 1871-Jun 1977

Sep 190	6 Sep 191	4 Jun 196	Sep 197	9 Jun 189	7 Sep 190	9 Sep 1932	Sep 192	3 Jul 193	Sep 197
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## TEN COLDEST DAYS 1871-Jun 1977

1 Dec 193	14 Jan 1888	5 Jan 188	8 Jan 193	Jan 193	9 Dec 197	2 Dec 193	Jan 188	0 Jan 197	
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*Last of several occurrences

## LONGEST HOT PERIODS

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		96	. 96	86°86 97°96 76°76 75° Last
LOD	,	97°	° 76	83° 97° 75° 76° y oc
PER		. 26	97° 88° 92° 80° 84°	82° 97° 80° 79° 86°
SOF		97° 92° 88° 87°	97° 82° 93° 86°	82° 89° 80° 79°
LURE	.96	89°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°	8888888 664688888	77 88 79 76 88
EMPERATURE	101° 97° 94° 94°	888 899° 92°	8 8 9 9 8 8 8 9 8 9 8 9 8 9 9 9 9 9 9 9	76° 78° 78° 83°
TEN	100° 97° 95° 101°	87° 90° 88° 87°	87° 83° 86° 86°	82° 86° 76° 85°
	90%	86° 87° 86°	866° 81° 82° 82°	76°
;	1904 1939 1929 1971	1939 1909 1877 1970	1939 1970 1959 1909 1887 1890	1890 1939 1912 1930 1965
ES	9 Sep 3 Sep 2 Jun 6 Sep	3 Sep 6 Sep 2 Jun 8 Sep	3 Sep 9 Sep 6 Oct 6 Sep 3 Oct 9 Oct	9 Oct 3 Sep 8 Oct 3 Nov 6 Oct
DAT	1111	1112	11111	1111
	Sep Sep Jun Sep	Sep Sep Jun Sep	Sep Sep Oct Sep Oct	Oct Sep Oct Oct
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CONSECUTIVE	06	85°	0 8	75°
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#### LONGEST COLD PERIODS

TEMPERATURES OF PERIOD	29° 29° 31° 32° 30° 32° 30° 32° 32° 30° 27° 31°	34° 30° 32° 34° 29° 29° 31° 32° 34° 33° 27° 31° 35° 32° 33° Last of several occurrences	30° 40° 38° 40° 38° 36° 36° 37° 40° 40° 40° 40° 38° 36° 38° 36° 38° 39° 39° 37° 32° 34° 36° 35° 35° 35° 36° 40° 37° 32° 30° 36° 40° 38° 40° 39° 40° 37° 37° 35° 35° 37° Last of several occurrences	Too numerous to list Too numerous to list Too numerous to list
DATES	14 Jan - 17 Jan 1888 9 Dec - 10 Dec 1972 8 Jan - 9 Jan 1937 20 Jan - 21 Jan 1937 11 Dec - 12 Dec 1932	8 Dec - 11 Dec 1972 14 Jan - 17 Jan 1888 9 Dec - 12 Dec 1932 9 Jan - 11 Jan 1949	7 Jan - 16 Jan 1929 19 Jan - 28 Jan 1949 7 Dec - 16 Dec 1972 19 Jan - 27 Jan 1937 31 Dec - 7 Jan 1961 1960-	19 Dec - 19 Feb 1949 1948 15 Dec - 27 Jan 1917 1916 27 Dec - 3 Feb 1937 1936
NO.	70000	<b>444</b> 0	10 10 10 8	63 44 39
CONSECUTIVE DAYS	32° OR BELOW	25° OR BELOW .	- 40° OR BELOW	45° OR BELOW

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JANUARY	

			•	•																											
LATEST YEAR	92	91	1924	97	91	96	96	1937	91	76	. 7 6	937	92	1888	88	91	06	92	1883	93	93	93	96	1954*	8 9	8 9	96	96	92	1923	9.7
RECORD LOW MAX			43					42						7 0 7					77					47	9 7					4 5	
LATEST YEAR	76	96	1927	94	96	8	76	1940	96	9 5	9 5	6	. 6	1909	9 0	97	6	89	1969	96	9.7	9.7	9.7	22	1942	9	α γ	93	96	1881	9
RECORD HIGH MIN			53					57						56					57						5.5					58	
LATEST YEAR	919	924	1950*	950	96	91	93	1937	93	94	76	92	94	1888	88	88	88	92	1922	93	93	96	646	9 4	7	9 4	93	95	92	1923	91
RECORD			36					30						29					3.2						36					36	
LATEST YEAR	(J)	96	1914*	93	88	80	91	1962	96	93	9	76	967	1967*	96	92	92	92	1976*	916	97	96	96	1948	8 9	8 9	89	8	9	1899	97
RECORD MAX			63					7.9						99					7.0						74					72	
DAY	Н	- 2	က	4	2	9	7	8	6	10				14					19						2.5					30	

#### FEBRUARY

LATEST YEAR	93	88	88	1899	97	80	1929*	939	93	92	8	88	1884	88	8 9	92	1882	88	89	918	8 9	88	1969*	91	9 5	95	91	1911	92
RECORD LOW MAX				42			94						48		20		9 7								51			9 7	
LATEST YEAR	96	96	96	1963	96	9.6	1960	96	97	76	97	87	1936*	93	93	8 9	1878	96	896	9 6	93	88	1968	95	96	92	76	1925	96
RECORD HIGH MIN				58			56								09		57						55		28			9 9	
LATEST YEAR	9 5	93	88	1899	8	887	1929*	920	90	8 9	88	88	1884	96	90	95	1880	89	89	8 9	8 9	89	1890	89	8	96	96	1951	88
RECORD				34			35								37		38						38					36	
LATEST YEAR	916	97	06	1963	91	91	1963	95	67	88	88	88	1930	93	93	93	1939*	89	96	96	88	88	1947	76	88	93	93	1901	93
RECORD	0			7.1			72						7.4		97		7.5						73					7.5	
DAY	1	2	ന	7	2	9	7	∞	6	10			13				17						23					28	

MARCH

LATEST YEAR	8 9	1896	89	90	90	80	97	1893	87	91	95	96	1881	89	90	8 9	8 9 8	1954*	882	95	90	91	1904*	906	06	90	89	196	89	1961	8 6
RECORD LOW MAX	9 7	4 5						20					6 7					52							67					20	
LATEST YEAR	92	1936	90	90	88	8	68	1934*	94	93	905	90	1941*	87	76	91	16	1914	9.1	8 7	91	87	1876	96	92	9 5	93	93	90	1916	97
RECORD HIGH MIN	56	09						58					26					63					57		57					59	
LATEST YEAR	96	1896	89	89	91	9.5	89	1952*	89	92	92	89	1875*	76	91	8	868	1898*	89	90	93	06	1913	91	90	9 0	89	60	89	1905*	8 9
RECORD	39	36						41					40		41			41					41							42	
LATEST	93	1936*	92	95	90	68	89	1892	93	91	93	92	1926	92	16	91	91	1914	91	16	91	92	1926	92	95	93	92	92	91	1911	88
RECORD		92						78					7.8					86					82							79	
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APRIL

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LATEST YEAR	90	95	1901	97	8 7	87	975	95	1965	96	92	92	97	1896	95	963	955	1967*	896	971	06	1975*	89	95	922	9 5	97	.1948	6	8 5
RECORD LOW MAX			51						20						51					5.2		54			52			5.0		
LATEST YEAR	. 8	95	1961	96	92	926	95	885	1904*	885	90	95	94	1947	96	92	92	1918	91	96	97	1926	91	91	92	93	9.2	1876	977	91
RECORD HIGH MIN			57						59						57					57		56			61			09		
LATEST YEAR	97	95	1921	87	8 7	92	891	89	1965	92	96	91	88	1921*	9	91	880	1955*	89	963	96	1901	89	89	8 9	9 5	894	1906	96	796
RECORD	43		44						43					77	43			42		42		77						43		7
LATEST YEAR	95	93		96	92	92	93	90	1904	90	89	89	94	1888	96	96	95	1914	95	931	9 2	1910	91	92	92	96	92	1957*	914	91
RECORD	77								83					88				83				98						85		
DAY	·	7	ന -	4	Ŋ	9	7	∞		.10				14				18			21					26		28		

1 Record missing in 1906 due to earthquake.

MAY

1																												7			
LATEST YEAR	975	950	1975*	975	972	97	1945*	94	921	894	8 9	89	1898	95	8 9	97	97	1974	95	9 5	96	89	$\vdash$	89	6	97	97	97	96	1965	96
RECORD LOW MAX	53		53				54						51					54							53					5.4	
LATEST YEAR	76	76	1935	93	95	94	1936	94	93	9 6	8 9	6	1976*	89	16	9.5	92	1931	93	76	89	94	95	89	1883	8 9	88	97	92	1924	88
RECORD HIGH MIN			09			67	09	63	59	99			65					59							09					5 9	
LATEST YEAR	89	92	1950	97	965	96	1879	96	92	92	606	88	1882	89	8 9	9 0	899	1901*	87	89	89	90	0	911	1953*	918	911	911	89	1916*	97
RECORD			77				45						4.5					9 7							47					47	
LATEST YEAR	76	92	1935	93	95	9 4	1967*	93	93	9 6	8 9	6	1927	92	97	9 5	89	1892	93	94	88	9 4	1943	92	9 5	89	93	88	67	1910	91
RECORD MAX			79				81						8.7					88							87					06	
DAY	1	2	ო	4	Z.	9	7	∞		10			13					18					23							30	

JUNE

																	1													
LATEST	996	197	8	197.0	90	913	908	1911*	943	943	97	89	91	1911	90	0	à	1977	9	0	91	91	962	1899*	93	8	96	1970*	96	97
RECORD LOW MAX				55				5.5						53				55						56				58		
LATEST YEAR	096	96	96	1904	8	8	95	1877	87	92	8 7	87	96	1961	96	87	95	1945	89	92	51	9.5	90	1976	97	97	97	1942	92	8 9
RECORD HIGH MIN				6.5				65						99				09						7.0	69			09		
LATEST YEAR	955	90	909	1908	06	91	91	1917	89	06	911	908	91	1917	91	91	901	1908	8	90	911	911	90	1908	9 0	917	91	1917	91	9 0
RECORD				9 %				9 7						9 7				47						47				<b>4</b> 8		
LATEST YEAR	91	96	89	3969	80	06	16	1973	87	87	87	87	96	1961	97	76	95	1895	92	97	92	92	90	1976*	9 / 6	97	97	1891	89	92
RECORD				92				92						101				86			95			9.5				9.2		6
DAY	Н	7	3	7	5	9	7	œ		10				14						20				24				28		

JULY

						RECORD	
RECORD MAX	LATEST	RECORD MIN	LATEST YEAR	HIGH	LATEST	LOW	LATEST YEAR
	0 0		0		α		0
0 0	1970	0 0 0 0 0	1949*	62	1970*	57	1965*
	93		16		93		96
	93		953		931		89
	921		96		931		97
	92		95		92		97
86	1905	48	1910	99	1905	5.5	1962
	92		95		90		96
	95		953		88		951
	9 5	47	95	09	88		9 5
	91		8 9		91		944
8 2	1897	48	1903	99	1931	57	1912*
	16		90		97		951
	97		90		972		899
	8 8		90		88		8 9
	93		91		888		9 0
	96		903		972		9 0
8 4	1916		1899*	58	1942*	26	1903
	96		696		925		905
	91	38	894	58	925	26	6
	91		90		97		946
	917		894		96		196
78	1917	67	1890*	<b>10</b> 10	1946	56	1968*
	973		933		946		892
	96		968		0 6		8
	92		96		76		91
	95		897		2		96
	93		90		9.5		95
8 4	1930	8 4	1901*	09	1885	15	1943*
	96		89		6		8 9

#### AUGUST

LATEST	954	96	1910	90	91	91	606	1951*	95	951	9.5	450	92	955	1944*	83	89	9 0	9	6	06		955	195	188	8 9	194	1970	1.97	606	190
RECORD LOW MAX			55							57					57				26						57					5.2	
LATEST YEAR	87	87	1976*	916	97	96	96	1971	972	93	941	965	96	968	1959	93	67	883	1976*	972	8 6	97	95	91.5	1971*	89	894	954	896	1968*	176
RECORD HIGH MIN			5.8					59							5 6				62		99	99	64	5.9	28					09	
LATEST YEAR	955	910	1910*	903	893	91	91	1903	90	90	σ	0 00	90	96	1955*	95	84	89	1955	95	8 9	97	894	91	1955*	9 5	95	95	95	1911.	91
RECORD MIN			48					9 7		48					29				48						5 0					6 7	
LATEST YEAR	91	94	1938	76	96	91	89	1975*	97	76	93	9	1965	88	95	93	89	93	1950	91	8 9	1891	93	93	89	8 9	89	16	96	1879	76
RECORD			73					7.9		81					8.7				81			9.5			98					8 9	
DAY	H	2	m	7	2	9	7	œ	0	10			13		15				19						2.5					30	

#### SEPTEMBER

LATEST YEAR	1960 -	9 9	96	92	9.7	16	1928	76	76	97	89	1898	8 9	06	93	1902	96	9 5	88	1951*	910	91	91	9.1	91	1899	9.0	096
RECORD LOW MAX	57						57					56				56				58						57		58
LATEST YEAR	1941*	96	96	9 5	90	9 0	1904	88	92	046	5	1971	97	16	87	1912	94	93	93	1939	96	88	3 6	16	76	1966*	9.0	91
RECORD HIGH MIN	61						99					72				69				7.0						6.5		
LATEST YEAR	1910	92	904	920	910	76	1946	97	97	970	933	1933*	91	91	901	*0961	096	917	89	1910	89	96	9.10	9 5	955	1968*	952	06
RECORD	. 87						50					20				6 7		6 7		48						6 7		47
LATEST YEAR	1952	96	92	9 0	9.0	9.0	1932	91	924	26	97	1971	97	91	87	1912	91	93	8 2	1939	93	96	95	97	92	1966	96	95
RECORD	0 8 8				0		100					101	6			9 4				97			93			9.5		8 9
DAY	7 7	m 4	5	9	7	8	ത	10				14				18				22			25			28		

#### OCTOBER

LATEST	1916	97	970	92	96	97	91	1906	80	89	90	1899	8	06	949	90	76	1949*	8 9	91	95	1913	89	88	8 9	96	89	1906	97	96
RECORD LOW MAX	57				5 9			55				52			56			57				55						53		
LATEST YEAR	1965	90	90	06	93	93	89	1887	06	95	6	1918	96	96	96	97	940	1910	96	96	96	1959	96	96	87	87	87	1973*	973	96
RECORD HIGH MIN	62							99				63						99	61			67						09		
LATEST YEAR	1950	95	916	06	06	95	895	1906	တ တ	890	92	1899*	88	8 9	8 9	89	76	1893	76	8	84	1849	76	6 7 6	8 9	90	971	1951*	93	93
RECORD	67							48				9 7						48				4 5						9 7		
LATEST YEAR -	1913	2 5	0 6	93	93	91	89	1934	ထ	93	2	1959	96	96	93	6	93	1913	88	92	92	1965	96	96	91	89	89	1939*	9 4	96
RECORD	068							87				87						06				88						84		
DAY	7 6	ı m	7	2	9	7	æ	6	10			13						19				23			26					

#### NOVEMBER

	1		,																											
LATEST YEAR	1 ~	60	1935*	8 9	8 9	96	92	1920	95	919	91	8 7	1955	95	95	9 5	881	1881	9 0	946	93	973	93	95	1892	8 9	89	1906	91	92
RECORD LOW MA-X	5.3		54					54					52			5.2		52							20			6 7		
LATEST	96	96	1950	16	88	76	88	1885	95	97	9.3	0	1967*	196	97	89	93	1932	89	9 5	95	6	95	95	1958	95	93	1932	93	92
RECORD HIGH MIN	5.9		. 67					62					09		58			63							56			58		
LATEST YEAR	1 6	93	1935	93	93	92	971	1897	91	91	91	91	1938*	95	95	958	958	1930*	964	96	88		93	90		91	919	1906*	906	8 9
RECORD	4.2		42					9 7					77					4.5							42			4 0		
LATEST YEAR	1966	96	1950*	76	916	93	95	1955	95	95	93	9.0	1933	06	92	89	93	1932	93	939	96		95	95		9 5	954	1929*	932	9 5
RECORD MAX	9		82					8 4					80					81				97			97			7.2		
DAY	-	2	က	7	5	9	7	<b>&amp;</b>		10			13			16		18			21					26				

DECEMBER

LATEST YEAR	1963	96	96	96	972	1972	16	97	932	6	196	1972	97	97	963	1924*	924	9.0	06	1908	87	87	87	91	0 6	06	1911	91	88
RECORD LOW MAX	51					7 0			3.5			41				4 5				43							45		
LATEST YEAR	1875	95	8 7	9 2	95	1893*	93	93	93	92	92	1929	9.6	92	76	1884	96	96	95	1964	96	88	96	89	96	67	1945	88	9 5
RECORD HIGH MIN	58					26						58				56				09							26		
LATEST YEAR	1972	9 6	97	9 0	16	1972	6	97	93	93	6	1972	97	97	96	1924	9 0	9 0	96	1908	92	87	8 9	92	8 7	91	1899	91	88
RECORD	45					34			27			3.5				36				37							38		
LATEST YEAR	1959	9 0	92	8 9	92	1893	76	95	9 5	95	91	1958	76	9 5	95	1910	92	8 8	96	1914	88	90	96	96	9 5	96	1975	76	9 5
RECORD	717					72						89				89				67			67				99		
DAY	H 67	m 4	2	S	7	œ	6	10				14				18				22							5 9		

NORMAL SEASONAL PRECIPITATION BY DATE

JUN	20.50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	· (	٥. د	9.0	9.0	9.0	9.0	20.65				,								20.66		20.66			.17
MAY	19.98	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	(	0.2	0.2	0.2	0.2	0.3	0.3	0.3	20.36	0.3	0	0.3	20.40	0.4	0.4	0.4	4.0	0.4	0.4	0.4	0,4	0		. 54
APR	18.39	4.8	\$ .5	8 . 6	8.6	8.7	80.8	8.8	8.9	0.6	(	. C	8.1	°,	9.2	9.3	9.3	9.4	19.45	9.5	9.5	9.6	19.65	9.6	9.7	6.7	9.8	9.8	9.8	9.9	9.9			1.63
MAR	15.65	5.7	5.00	5.9	0.9	6.1	6.2	6.3	6.4	6.5		6.5	6.7	6.8	6.3	6.9	7.0	7.1		7.3	7.4	7.5	17.61	7.6	7.7	7.8	7.9	8.0	8.0	8.1	8.2	.3	1	2.77
FEB	12.70	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.6	3.7	(	γ· α	3.9	9.9	4.1	4.2	4.3	4.4	14.55	4.6	4.7	4 . 8	14.95	5.0	5.1	5.2	5.3	5.4	5.5	5.5			- 4	2.97
JAN	8.22	<del>د</del> . ا	. 5	9.	$\infty$	6.	•	.3	. 4	9.	ſ		6.6	0.0	0.2	0.3	0.5	0.6		0.9	1.1	1.2	11.38	1.5	1.6	1.8	1.9	2.0	2.1	2.3	2.4	2.5		4.51
DEC	4 000	۲.	. 2	.3	٠ را	. 5	. 7	φ.	6	۲.	(	7.	• 33	٠ 4	9.	. 7	φ.	0	6.17	.3	. 4	5	6.73	8	0.	Η.	٤.	. 4	9.	. 7	6.	0.		4.18
NOV	1.35	• 4	. 4	.5	9 .	9 .	, 7	φ,	$\infty$	6.	(		۲.	. 2	٤,	3	, 4	5	2.66	. 7	œ	0	3.05	7	. 2	.3	. 4	.5	9.	.7	φ.		,	2.60
DCT	. 24	7	7	3	$\sim$	$\mathfrak{C}$	$^{\circ}$	3	Š			<b>寸</b>	4	5	1	5	9	9		7	.76	$\infty$	.84	$\infty$	9	6	0	0	-	.1	. 2	. 2		1.06
SEP	90.						. 07									0	0	-	11,	$\dashv$			.15	$\vdash$	$\vdash$	$\vdash$	$\vdash$	2	2	2	2			.17
AUG	. O.											70.								.03				.04				.05				90.		. 05
JUL	0	0	0	0	0	0	0	0	0	0	(	0	Ö	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.01	.01	1	. 01
DAY/MONTH	П	. 2	m	7	5	9	7	&	0	10						-			18		20		2.2											MONTHLY

# LONG TERM YEARLY NORMAL PRECIPITATION

TEN TEAR NORMALS	રું	THIRTY YEAR NORMALS	MALS
1851 - 1860	22.89	1851 - 1880	24.29
1861 - 1870	24.93	1861 - 1890	24.75
1871 - 1880	25.04	1871 - 1900	22.24
1881 - 1890	24.29	1881 - 1910	21.79
1891 - 1900	17.39	1891 - 1920	20.25
1901 - 1910	23.70	1901 - 1930	20.97
1911 - 1920	19.67	1911 - 1940	20.39
1921 - 1930	19.54	1921 - 1950	19.68
1931 - 1940	21.97	1931 - 1960	20.71
1941 - 1950	17.54	1941 - 1970	20.03
1951 - 1960	22.62		
1961 - 1970	19.93		

127 SEASON NORMAL - 21.45

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### PRECIPITATION RECORDS SAN FRANCISCO CITY OFFICE

1849-30 Jun 1977 Unless otherwise noted

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EA1
MAXIMUM MONTHLY PRECIP	AMT	24.36 1862	12.52	8.75	10.06 1880	4.02	2.57	0.62	.78	5.07	7.78	11.78 1885	15.16	38.82 4 1884 1	9.27 .861-1862
MINIMUM MONTHLY PRECIP	AMT	.26	1864	0.03	0	0	1973*	0	0	1970*	0	0	0	8.73 1976 1	7.16
MAXIMUM 24 HR PRECIP	AMT	4.67 29, 1881	3.60	3.65 2 29-30,23	2.43 ,23-24, 1896	1.42 27-28,	1.36 1-2,	.61 8 1974	.49 11 1965	3.58 23-24, 1904	3.11 12-13, 1962	3.98 23, 1874	3.44 20-21, 1924	.4 . 67 29 Jan	1881
MAXIMUM DAILY PRECIP	AMT	3.22 14, 1956	3.38 15, 1891	2.73 5, 1879	2.04 23, 1958	1.34 12 1925	1.34 2, 1967	.61	.49 11, 1965	3.09 23, 1904	2.29 15, 1969	3.98 23, 1874	3.28 3, 1915	3.98 23 Nov	1974
MAXIMUN PRECIP 2-HR ²	AMT	.95	.91	1.24	1.09	.70	.51	.27	.22	1.29	.98	.95	1.29	1.29 Dec 19	69
1 HR ²	AMT Y R	.72	.64	1.07	.96	.65	.35	.18	.18	.97	.70	.92	.76	1.07 Mar 19	12
30-MIN ²	AMT	.67	.54	.83	.63	.39	.20	.12	.17	.74	.58	.83	.50	.83 Nov 19	1.2
15-MIN 2	AMT	.51	.47	.59	.47	.39	.13	.08	.15	.43	.53	.65	.57	.65 Nov 19	18
10-MIN ²	AMT	.48	.37	.45	.40	.35	.10	.07	.12	.32	.41	.51	.31	.51 Nov 19	1.8
MIN 2	AMT	38	.23	2671	.26	.31 958	19	. 0	.10	.16	r!	19	.29	.38 Jan 19	69
*Last o	r sev	eral oc	ccurrences		1;Seasc	on: Ju]	1 1-Jun	30.	2.	1871-3	l Dec	1974			

### PRECIPITATION RECORDS SAN FRANCISCO CITY OFFICE

Unless otherwise neted

1849-30 Jun 1977

-30-

ACCUMULATIVE PRECIPITATION

TEN WEITEST SEASONS 1849 - Jun 1977

JUL 1 THRU:	JUL	AUG	SEP	TOO	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1.	.62	.78	5.15	7.52	12.67	24.00 1862	38.02	45.55	47.75	48.48	49.22	49.27
2.	1886	.62	2.53	7.29	12.40	19.31	33.61	38.77 1890	43.50	44.68	45.75	45.85
°.	.21	.51	2.08	6.00	11.80	18.62	26.34	31.63	36.27	38.58 1868	38.61	38.84 1868
* 7	1975	.44	1.52	5.80	10.19	18.00 1849	25.31 1973	30.98	34.26	35.51 1958	36.39	36.48
	.10	.32	1.47	4.93	9.72	17.66	25.08	29.97	33.95 1878	35.01	35.26 1853	35.26 1853
• 9	.08	.25	1.29	3.92	9.26	17.26	23.84	29.39	32.64 1850	34.97	35.17	35.18 1878
7.	.07	.23	1.25	3.76	9.15	15.94	23.78	28.16 1872	32.56 1850	34.88	35.06	35.05
œ	.06	.23	1.06	3.14	8.59	15.93	23.27	28.11 1850	30.79	34.28	34.98	34.92 1867
. 6	.06	.22	1.06	2.99	8.30	15.07	23.23	28.86	30.04	33.86	34.36	34.36
10.	90.	. 21	1.05	2.95	7.97	14.49	22.64	26.05	29.81	33.10 1850	33.10	33.10

Flast of court occurrence

## ACCUMULATIVE PRECIPITATION

## TEN DRIEST SEASONS Jul 1849 - Jun 1977

APR MAY JUN	0 6.73 7.13 7.1 1851 1976 1976	2 7.12 7.40 7.4 1976 1851 1851	6 7.75 9.19 9.3 1898 1898 1898	3 9.30 10.02 10.0 1864 1977 1977	6 9.45 10.08 10.0 1920 1864 1864	0 10.42 10.42 10.4 1920 1920 1959	8 10.44 10.46 10.4 1959 1959 1920	8 10.85 10.95 11.0 1877 1972 1877	6 10.95 11.03 11.0 1972 1877 1972	0 10.95 11.48 11.4
EB MAR	56 5.5 851 1851	41 6.4 976 1976	.81 7.5 .920 1898	21 7.7 .864 1864	.30 9.0 .912 1920	.32 9.4 .898 1977	.39 9.8 .977 1972	.77 10.0 .899 1959	.89 10.1 961 1961	.15 10.4
JAN	2.36 3 1918 1	3.02 5 1851 1	3.58 5	4.56 6 1891 1	4.58 6 1920 1	4.73 7 1957 1	5.19 7 1898 1	5.74 7	5.89 7	6.06
DEC	1 1.55 9 1917	0 1.78 8 1958	3 1.89 0 1956	8 2.30 0 1850	6 2.48 0 1939	7 2.91 2 1910	7 2.97 5 1905	5 2.98 6 1878	3 3.02 7 1862	3.10
OCI NOV	0 .0 855 192	0 905 195	01 .3 932 189	01 .3 929 188	02 .4 917 187	02 .6 915 186	02 .6 861 185	03 .7 863 193	03 .8 870 191	05 .8
SEP 0	0 1927* 1	Н	• =	• -	• ਜ	• =	• ਜ	• -	• =	E-
AUG	0 * 1975*									H
JUL	1976*						2			E
JUL 1 THRU	ř		e e	-3 -4	32-	.9	7.	œ	. 6	

*Last of several occurrences.

## LONGEST RAIN PERIODS

8 Jan 1862 - 11 Jan 1862

CONSECUTIVE DAYS

4

: --- .40

	.60 .57 .63 1.62 .28 .48 2.01 .52 .37 .4	.23 .18 .15 .65 .78 .46 .16 .10 .43 .31 .27 .61 .53 .14 .81 .80 .62 .38 .77 .06							
16 Jan 1862 - 22 Jan 1862	17 Dec 1884 - 26 Dec 1884	18 Dec 1964 - 6 Jan 1965	LONGEST DRY PERIODS	2 May 1905 - 18 Nov 1905	29 Mar 1909 - 25 Sep 1909	16 Apr 1903 - 9 Oct 1903	20 May 1955 - 10 Nov 1955	17 May 1852 - 28 Oct 1852	12 Apr 1967 - 14 Sep 1967
7	10	20	CONSECUTIVE DAYS	194	180	176	174	164	155
. 5 "	.25"	.01"	-33-						

MONTHLY PRECIPITATION DATA 1849-1874 (By Season)

TOTAL	33.10	8.4	3.8	3.	1.6	9.9	1.8	. 2	2.2	19.72	9.2	3.7	0.0	4.7	22.93	4.9	8.8	4		ر د د	4.1	0.7	15.06	4.7
JUN	0.00	? 0	0.	0	0.03	7	0.	0.	0	0.08	0.	0.	0.	•	0.04	•	•	•	(		0.	0.	0.02	1.
MAY	0,00	ლ ო	0.	∞	91.0	0.	.3	. 5	∞.	1.00	. 7	. 2	.7	9 •	1.46	0.	0.	0.	(	7.	. 2	7	00.0	9 •
APR	0.46	3 .	. 1	6.	2.94	0	.5	. 2	7	0.51	. 7	9.	. 5	6.	0.12	.3	.3	. 1	ι	٠,	∞.	∞.	0.43	6.
MAR	4.53	9 8	. 5	9•	1.60	9.	.5	0.	0	4.08	. 2	0.	• 5	. 7	3.04	. 5	.3	٦.	(		.3	. 5	0.79	. 3
FEB	1.77	. T	0.	. 7	0.50	.5	φ.	• 3	9	3.72	5	۲.	0.	.3	2.12	. 2	7	6.	1	`.		6.	3.94	. 2
JAN	8.34	. o	φ.	9.	9.40	٠, 4	.3	. 2	9		.3	3.6	φ.	٦.	10.88	5.1	. 5	. 3	(	ò	0.	0.	1.58	9.
DEC	6.20	. T	2.3	φ.	5.76	. 7	-	۲.	.5	6.16	. 5	.3	φ.	6.	0.58	5.1	9 •	4.3	(		3,3	.3	5.95	. 7
NON -	8.66	. T	. 2	.3	0.67	. 7	0.	9.	. 2	0.58	7	7	. 5	9 .	4.19	.3	٠,4	. 1	,	٦.	٠,4	$\infty$	2.79	
OCT	3.14	2 . 8	Τ.	4.	0.00	. 4	6.		0	0.91	0	.5	0.	٦.	0.26	0.	. 2	7	C	7.	0	0.	0.11	8
SEP	0.00		, 4	Η.	00.00	0.	0	0.	0	0.00	0	0.	0 .	0	0.24	Ξ.	0 .	0.	•	٠,	0.	0.	0.04	0.
AUG	0.00	00	0.	0		0.	0.	0.16	0	0.00	0.	0.	0.	. 2	0.00	0.	0 .	0.	(		0.	0.	00.0	0.
JUL	0.00	<u> </u>	0.	0.	0.	0.	0.		0	0.21	0.	0.	0 .	0	0.00	0.	0.	0.		•	•	•	0.01	•
SEASON	1849-50	851-5 852-5	853-5	854-5		856-5	857-5	8-5	859-6	1860-61	861 - 6	862-6	9-69	9-498	1865-66	9-998	867-6	9-89	0	1-608	870-7	871-7	1872-73	873-7

MONTHLY PRECIPITATION DATA 1874-1899 (By Season)

TOTAL	20.56	1.0	5.1	4.4	9.9	9.8	16.14	0.1	2.3	0	T . 0	3.0	9.0	16.74	3.8	5 . 8	7.5	8.5	21.75	8.4	5.7	1.2	23.43	9.3	6.8
JUN	1.02	0.	0.	0.	0	9 .	0.04	0.	.5	-	7 .	0	0.	0.27	0.	۲.	$\vdash$	Ξ	0.03	5.	0.	0.	0.22	~~! •	0.
MAY	0.22		<b>~</b> i	.3	-	, 2	0,21	. 5	. 2	<		£ 3	0.	0.38	~	0	• 2	$\infty$	0.15	. 3	9.	. 7	0.61	. 4	φ.
APR	0.10	. 2	0.	ω.	0	2.0	1.22	.5	.3	-	<b>-</b>	. 2	• 3	0.11	9		• 4	.3	1.03	.5	. 2	۲.	0.27	<u></u>	9 .
MAR	1.30	0.	.5	. 7	0	6.	3.45	0.	. 2	<		0 .	φ.	3.60	. 7	. 7	6.	8	4.08	9.	∞.	∞:	4.56	. 2	9.
FEB	0.32		5.	6.4	ω.	9.	2.96	0.	9 .	C	0	. 2	. 2	0.94	. 7	۲.	. 2	6.	2.75	9.	ω.	. 2	4.41	<del>- سا</del>	-
JAN	8.01	4.3	0	3.5	. 2	9.	1.68	6.	9	и	٠.	7.	9.	6.81	. 2	9.	6.	, 4	3.05	6.	6.		2.26	Η.	9.
DEC	0.33	0.	9 .	. 5	4.	ε.	3,85	0.	6.	7	•	6	0	3.34	80	ထ	. 2	9 •	5.08	. 2	0	٠ 4	4.34	. 2	9.
NOV	6.55	. 2	٠.	. 5	0.	ε,	1.94	Η.	9.	C	7.0	. 7	ი ა	0.99	6.	0	0.	5.	3.91	۳.	φ.	. 7	4.56	0.	, 4
OCT	2.69	3	9.	. 2	. 7	0.	0.54	9 .	۰ 4	П	٥.	. 7	4	E-4	$\vdash$	. 2	0.	0.	1.65	. 1	. 7	-	1.55	. 7	$\infty$
SEP	0.02	.3	0.	. 5		0.	0.25	. 2	• 4	C	· .	-	0.	0.29	6.	$\vdash$	۳,	. 7	0.02	. 2	0.	. 7	0.52	-	0.
AUG	00.00	0.	0	<del>[-4</del>	0.	0	0.00	0.	0.	<	٠. د د د	<u>[-4</u>	⊣	0.	0.01	H	0.	0.	0.00	0.	0.		0.		₽
JUL	0.00	0	0	0.	0	0	0.00	0.	0.	Ε	-	0		Η	0.01	0	0.	-	0.00	0.	Η	0	0.04	Ţ	0.00
SEASON	1874-75	876-7	877-7	878-7	879-8	880-8	1881-82	882-8	883-8	0	024-0	885-8	836-8	1887-88	888-8	889-9	890-9	891-9	1892-93	893-	894-9	895-9	1896-97	897-9	898-9

MONTHLY PRECIPITATION DATA 1899-1924 (By Season)

TOTAL	18.47 21.17 18.98 18.28 20.59	23.45 20.42 26.17 17.35 25.57	19.52 25.49 14.06 11.97 29.60 27.41 27.12 15.78 11.48	10.46 23.16 19.91 22.17 11.62
JUN	0.00 T T	0.00 0.56 1.28 0.01	0.00 0.003 0.002 0.00 0.00 11	0.04 T 0.26 0.07
MAY	0.32 0.69 1.05 T	2.05 2.75 0.04 0.76	0.03 0.28 1.47 0.63 0.37 3.17 0.00 T	T 0.52 0.55 0.06
APR	1.08 1.64 0.98 0.56	1.33 0.92 0.11 0.22	0.31 1.38 0.60 0.99 0.62 0.00 0.33 0.60	1.36 0.54 0.47 3.92 0.30
MAR	1.91 0.80 2.65 6.23 6.01	3.15 5.02 8.42 0.90	3.78 4.57 4.10 1.47 1.09 1.33 1.42 2.73	3.25 2.28 2.38 0.03
FEB	0.64 5.03 7.27 1.76 5.89	2.70 4.30 3.20 7.39	2.09 3.02 0.41 0.43 7.36 3.77 3.81 5.79	1.23 1.38 5.15 0.77 3.30
JAN	4.11 5.79 1.23 3.73 1.05	4.04 3.90 4.41 4.88 10.51	3.24 13.79 2.47 3.84 9.76 6.74 14.59 1.83 0.81	0.26 6.30 2.41 2.84 2.75
DEC	2.65 1.37 0.90 2.32 1.63	1.59 2.05 6.90 3.66 2.15	5.59 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30	3.21 7.48 6.39 7.77 1.91
MON	3.79 3.91 3.48 1.98 4.25	1.07 0.92 1.59 0.04 1.34	2.43 0.48 1.94 6.22 6.22 1.50 0.70 0.81 5.60	0.44 2.70 1.43 3.77 0.49
OCT	3.92 1.48 0.64 1.70 0.17	2.37 T 0.03 1.36 0.61	1.23 0.65 0.28 0.49 0.35 0.029 0.010 0.17	0.27 1.83 0.52 2.95
SEP	0.00 0.46 0.78 T	5.07 T 0.18 0.11	0.80 0.05 1.25 0.00 1.20 0.02 2.53	0.39 0.13 0.35 0.44
AUG	енене	0.06 T 0.11 0.02 0.01	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 1
JUL	0.00 T T T U.00	0.02 0.00 0.08 T	0.07 0.02 0.01 0.03	0.01 0.00 T
SEASON	1899-1900 1900-01 1901-02 1902-03 1903-04	1904-05 1905-06 1906-07 1907-08	1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1915-16 1916-17 1916-17	1919-20 1920-21 1921-22 1922-23 1923-24
			-36-	

MONTHLY PRECIPITATION DATA 1924-1949 (By Season)

TOTAL	0.8	20.69	5.4	9.6	5.3	6.2	3.5	1.0	4.9	12.91	3.2	4.9	2.3	25.48	.5	7 1	5.0	9 9	-	00		1.8	1.6	14.89	5,5	8.2
NOL	0	-	ω,	⊱-4	$\infty$		. co	0			-	. 2	.5	00.0	E	C		<u>-</u>				0	0.	79.0	0.	⊱
MAY	0	0.15	2 	. 2	0 .	-	·	9	٠ د	0.12	0	<b>7°</b>		E-1	0.68	9	, , ,	7	0.13	•	,	9.	e.	0.67	.5	6.
APR	. 7	5.26	0,	.3	0.	7.		7.	0		. 4	0.	$_{\circ}^{\circ}$	1.52	. 4	6	0	9	1.88	0.		m,	0	0.17	0	E
MAR	9.	0.25	•	9.		7.	9.	00	6.	0.07	٠°	0.	0.	. 7	2.62	۲,	7	9	7	0.83		7	٣.	3.64	.3	∞.
FEB	6	5.40	$\infty$	6.		0	1-	0	7	4.68	2 . 3	0.	<b>\$</b> . 8	8.49	6.	00	7	. 2	6	5.34	•	. 4	0.	2.65	٠ د	0
JAN	9 •	5.48	. 7	, 4°	. 3	6	S	. 2	9.	1.03	. 2	٠, ٦	. 2	2.65	0.	6	. 2	7 .	6.15	4.31		3	. 7	1,35	0.	. 2
DEC	<b>ب</b>	1.01	0.	6.	φ.	0	6	. 2	. 7	4.19	0	• 2	6.	3.73	•	0	. 2	. 2	∞.			6	$\infty$	2.77	$\infty$	. 7
NOV	7.	2.32	. 2	۲.	. 3	0	5	6	0	0.00		2.	0.	2.46	ω.	2	. 2	6	4.45	$\infty$	•	. 2	. 2	2.73	ъ,	۲.
OCT	6.	0.31	0,	6.	-	0	0	9 °	0		s S	, 4	9.	0.90	٠,	7	0	6.	0.95	. 7	1	` .	6.	0.15	0.	. 2
SEP	⊱	0.45	⊱	Ę⊸i	0.03	<b>(-</b>	-	-	0	0.14		0	⊱-4	F-4	0.15		2	⊱	0.18	0.	(		0.	90.0	<del>[</del> 4	0.
AUG	0.01		0.04	⊱	74	00.00			0.00	₽	<b>[-</b> +	0.25	0.02	[~4	00.00	Ę	<u>[</u>	0.03	₽	0.00		0.02	[	[4	[	0.02
JUL	0	0.06	0	₽	F=4	Ę	00.00	<b>[-4</b>	₽	0.00	0.01	H	0.03	[4	0.01	£-	: ⊱-	0	0.01	H		0.01	⊱-4	90.0	[	0.02
SEASON	924-2	1925-26	926-2	927-2	928-2	929-3	1930-31	931-3	932-3	933-3	934-3	935-3	936-3	1937-38	938-	7-686	7-076	941-4	1942-43	943-4		7-776	945-4	1946-47	7-176	7-876

MONTHLY PRECIPITATION DATA 1949-June 1977 (by Season)

TOTAL	6.7	4.0	2.5	1.1	•	5.7	7.1	15.04	6.4	• 4	5.4	3.8	17.68	2.1	2.3	2.2	6.3	29.41	4.4	5.0	0.8	8.7	11.06	4.3	5.	6.1	7.16	0.0
JUN	•	0.	0.39	9.	-		0	90.0	0.	₽	[-1	0		H	0.57		1.	1.42	Ξ	0	5	Ξ	0.11	0.	-	0.	0.03	0.
MAY	.3	. 7		.3		0	9.	3.19	8	0.	တ	$\infty$	₽	4	. 2		۲.	0.09	. 2	H	0	-	₽	0.	0	0	0.01	.5
APR	∞.	∞.	1.08	• 4	9.	4.	9	1.09	4.	.3	<del>-</del>	.7	0.36	٤,	0.	.2		4.90	٠,4	. 7	0	.7	1.07	0.	.3	. 2	0.70	0.
MAR	9.	٠,	7.90	$\infty$	.5	. 2	Η.	2.39	. 2	.3	0	. 2	2.76	∞.	-	6	φ.	4.35	4	0.	. 5	6.	0.23	9.	7.	Η.	1.01	0.
FEB	ش	0.	2.62	0.	•	-	0	3.58	. 7	0.	5.	6.	6.58	6.	-	6	. 7	0.22	. 2	. 2	.5	. 2	2.13	.3	. 5	. 7	1.83	6.
JAN	4.	4.4	10.69	3.2	-	0.	. 7	2.84	.3	6.	0.	. 7	1.08	<b>.</b>	• 3	6	. 2	67.6	.5	. 7	φ.	0	1.32	.3	٠,4	. 5	0.31	9•
DEC	.7	0.	7.92	0.	∞.	9	٠4	0.37	9•	. 4	. 7	.3	2.13	φ.	φ.		.5	3.87	-	6.	-	.3	3.93	.5	9.	.5	0.18	7.
NOV	-	6°	3.33	. 2	•	.5	.3	0.04	4	0.		3	4.44	9.	.5	6	. 7	4.80	-	9.	4.	, 4	1.92	۰ 4	∞.	4.	0.43	0.
OCT	0	. 7	0.81	0.	<del>ن</del>	. 2	0.	1.14	٠ 4	۲.		٠,4	0.09	.5	. 3	6	0	0.01	.5	9•	9.	00	0.11	. 4	9.	φ.	2,44	٣.
SEP	T	<b>[</b> →1	0.08	<b>[1</b>	[-4		0.	0.33	. 4	•	0	H	. 2	0	•		H	4	0	•	0	0	0.22	. 5	•	0	00.00	.5
AUG	0.04		٠ 4	0.01	9.	0.20	H	0.01	₽	П	0.02	Η	0.	0.07		0	4	•	Η	0.03	[-1	<del>[</del> -	0.	0.		0	0.02	. 7
JUL	0.06		0.01		T	0.			0.	0	[i	₽	H	[1	1	Ħ	0	90.0	0		[-4	H	0.	0.	0.00	9	0.20	0
SEASON	949-5	950-5		952-5	3-5	954-5	955-5	1956-57	957-5	958-5	9-6-6	9-096	1961-62	962-6	63-6	9-796	965-6	1966-67	9-196	9-89	2-696	970-7	971	972-7	73-7	974-7	1975-76	676-7

AMOUNT	£-4	<b>5</b> →1	E	E	H	H	0.8"	E-4	H	H	E-4	<b>-</b> 4	-8	<b>E</b>	ji Fij	E-d	E=4	Erri	0.3"	E=4	[-4	E	E-4	E	H	E-4	E-4	H		
									•			À			ં <del>ક</del> પુર્વ	*	, e													
DATE	13 Dec 1931	1 Jan 193	Feb 193	Feb 193	Dec 193	Dec 193	1 Dec 193	1 Mar 193	1 Dec 194	4 Mar 194	3 Jan 194	6 Feb 195	8 Feb 195	1 Mar 195	0 Nov 195	0 Dec 195	2 Jan 195	4 Jan 195	Jan 195	9 Mar 195	1 Mar 195	0 Mar 195	6 Mar 195	0 Mar 195	6 Feb 195	7 Feb 195	8 Jan 195	1 Jan 196		
AMOUNT	2.5"	2.0	T		3.5° E	Snow fell from 11:30 AM-4:20 PM	H	7.5"	ow fell at intervals	ay. Depths from 1"-	3.7 11	fell during day. Full	" in Western portion o		0.1.	· -	Ξ	1.0"	Heavy snow during night.	T	I	T	Ħ	7	I		[—		T	E-4
DATE	25 Dec 1856	2 Jan 186	2 Dec 187	1 Jan 187	1 Dec 188		6 Feb 1883	Feb 188			5 Feb 1887			Jan 188	16 Jan 1888	Mar 189	Mar 189	Mar 189		Feb 189	Feb 190	Mar 190	Mar 190	6 Feb 191	7 Feb 191	9 Jan 191	7 Jan 191	8 Jan 191	29 Jan 1916	3 Jan 193

1	JAN	FI EI BI	MAR	APR	MAY	JUN	JUL	Auc	SEP	OCT	NOV	DEC	ANN
WIND			•							1	٠.,	, ,	
MEAN SPEED!	6.7	7.5	8 .5	9.5	10.4	10.9	11.2	10.5	9.1			6.5	8.7
FASTEST MILE ²	7 7	<b>4</b> 8	77	ဆဆ	38	40	æ.∞ (n		88	43	51	51	
DIRECTION ² YEAR ²	SE 1965	s 1917	S 1948	1965	1965*	1965*	1939	1929	N 1923	SE 1950		NE 1923	NE 1923*
RELATIVE HUMIDITY3	£ X 3												
TS4 b0	81	83	81	82				0,		00			
	72	70	61	59	65	70	73	73	79 99	60 60	69 9	71	66
22 PST	76	92	76	80									
PRESSURE4													
HIGHEST	30.62	30.62	30.64	30.48	30.35	30.38	30.28	30.29	30.26	30.39	30.51	30.61	30.64
LOWEST	28.85	29.13 1891	29.34	29.43 * 1931	29.63	29.62	29.65 1926	29.60 1932	29.50	29.50 1951	29.40	29.33	28.85
SUNSHINE ⁵ (% OF POSSIBLE)			~										
MAXIMUM YEAR	79	95	88	95		94	88 1916	1969	94	91	92	85 1956	80
MINIMUM YEAR MEAN	18 1909 56	25 1902 62	32 1906 69	43 1948 74	43 1891 72	50 1948 73	46 1914 66	46 1917* 66	46 1973 72	43 1952 71	27 1973 62	32 1949 45	56 1892 67
* Last of several 4. 1892-1958. 5.		occurrenc 1891-1974	a . L	Thru	1964.	2. 1	.912-Ma	ar 1972	e *	Thru	1972.	M	

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